

PATENT SPECIFICATION



DRAWINGS ATTACHED

LO20.712

Inventor: JOHN ROBERTSON McCOLL

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Int. Cl.:—B 01 d

COMPLETE SPECIFICATION

Suction Pump Strainer suitable for Draining very shallow pools of water

We, JOHN CLARK PUMPS LIMITED, a British Company, of Clydeside Works, Dalmarnock Bridge, Rutherglen, Great Britain, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to suction pump strainers, particularly but not exclusively for use with self-priming centrifugal pumps.

An object of the invention is to provide a strainer which enables a self-priming centrifugal pump almost completely to drain all the water out of a shallow pool, such for example as occurs with nuisance water in culverts and in civil engineering projects.

The present invention is a suction pump strainer comprising a casing at least partly of perforated construction at least part of the bottom of which is flat, a tubular member extending into the casing and at least part of which is inclined within and relative to the casing, said tubular member being cut obliquely at one end to form an elliptical inlet opening, said opening being located in close proximity to the flat part of the casing bottom and in a plane parallel thereto, the other end of the tubular member being for connection to a pump suction conduit.

Preferably, the part of the tubular member projecting into the casing is inclined, while the part outside the casing is horizontally disposed. Alternatively, the whole tubular member is inclined relative to the casing. The end of the tubular member outside the casing may or may not have an outwardly-directed circular flange.

Preferably also, said casing is of cylindrical shape, the peripheral wall only of which is perforated.

The elliptical inlet opening of the tubular member is preferably contained within a horizontal plane.

45 The casing may have at its top a handle to facilitate positioning of the strainer.

[Price 4s. 6d.]

Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:—

Figs. 1 and 2 are respectively a sectional side elevation and a plan view of a suction pump strainer according to the present invention; and,

Figs. 3 and 4 are respectively a sectional side elevation and a plan view of a modified suction pump strainer.

Referring to Figs. 1 and 2 of the drawings, a suction pump strainer 10 comprises a tubular member 11 of circular cross-section presenting, at one end thereof, an elliptical inlet opening 12 disposed in a horizontal plane and, at its other end, a circular opening 13 around which a flexible hose or other conduit (not shown) may be coupled, the hose being connected to the suction side of a suction pump (also not shown).

The tubular member 11 projects into a cylindrical casing 14, whereof the peripheral wall 15 is perforated so as to serve as a straining member, the upper and lower walls of the casing 14 being of imperforate construction. The tubular member 11, projecting into the casing is inclined relative to the casing 14, and the elliptical inlet opening 12 is disposed adjacent the bottom surface of the casing leaving a clearance space 16 to prevent restriction of the flow of water through the tubular member 11.

In view of the increased area of the elliptical inlet opening 12 as against a purely circular opening, and the close proximity of the opening 12 to the ground, almost complete drainage of shallow pools is possible.

Conventional suction nozzles have to be completely covered before the centrifugal pump to which they are connected will self-prime, but with the present strainer 10 only the inclined tubular member need be covered to effect self-priming.

The end of the tubular member 11 outside the casing is surrounded by an outwardly-

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directed circular flange 17 to facilitate connection of a hose or other conduit.

Reference is now made to Figs. 3 and 4 of the drawings which show a modified strainer and like parts are referred to by the same reference numerals as used in Figs. 1 and 2 with the addition of the suffix "A". The strainer 10A comprises a casing 14A identical with that described with reference to Figs. 1 and 2 having imperforate top and bottom walls and a perforated peripheral wall 15A. The tubular element 11A is provided as aforesaid with an elliptical inlet opening 12A and a circular outlet opening 13A. The clearance 16A between the opening 12A and the bottom wall of the casing 14A is also provided.

In this embodiment, however, the part 11B of the element 11A is not inclined but is horizontal and it does not terminate in the circular flange 13 which is omitted. The flange 13 is omitted to illustrate that an alternative means of connection to the pump suction conduit can be employed. In some instances the flexible suction hose or conduit terminates in a flange in which case the flange 13 described in the first embodiment is utilized for connection of the strainer. However where there is no flange on the hose or conduit the outer end of the tubular member, that is 11B, is pressed into the bore of the flexible suction hose or conduit and fixedly located therein with a Jubilee (Trade Mark) clip or any suitable fastener.

In either of the above described embodiments therefore the tubular element 11 (Figs. 1 and 2) or 11B (Figs. 3 and 4) may or may not have a flange such as the flange 13 (Figs. 1 and 2). A handle 17 is secured to the upper wall of the casing 14A to facilitate positioning of the strainer 10A.

This strainer is employed as hereinbefore described.

In an alternative (not shown) only part of 45 the bottom of the casing is flat being that

part adjacent to which the elliptical opening of the tubular element is located.

WHAT WE CLAIM IS:—

1. A suction pump strainer comprising a casting at least partly of perforated construction at least part of the bottom of which is flat, a tubular member extending into the casing and at least part of which is inclined within and relative to the casing, said tubular member being cut obliquely at one end to form an elliptical inlet opening, said opening being located in close proximity to the flat part of the casing bottom and in a plane parallel thereto, the other end of the tubular member being for connection to a pump suction conduit. 50

2. A strainer as claimed in claim 1, in which the part of the tubular member projecting into the casing is inclined, while the part outside the casing is horizontally disposed. 55

3. A strainer as claimed in claim 1, in which the whole tubular member is inclined relative to the casing. 60

4. A strainer as claimed in any preceding claim, in which the end of the tubular member outside the casing has an outwardly-directed circular flange to facilitate connection of a hose or other conduit. 70

5. A strainer as claimed in any preceding claim, in which said casing is of cylindrical shape, the peripheral wall only of which is perforated. 75

6. A strainer as claimed in any preceding claim, in which the casing has at its top a handle to facilitate positioning of the strainer. 80

7. A suction pump strainer substantially as hereinbefore described with reference to, and as illustrated by Figs. 1 and 2 or Figs. 3 and 4 of the accompanying drawings. 85

H. D. FITZPATRICK & CO.,
Chartered Patent Agents,
94 Hope Street, Glasgow, C.2, and
3 Gray's Inn Square, London, W.C.1.

Fig. 1.

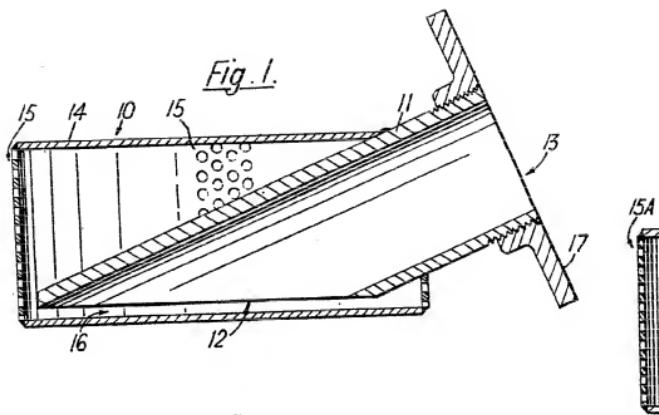
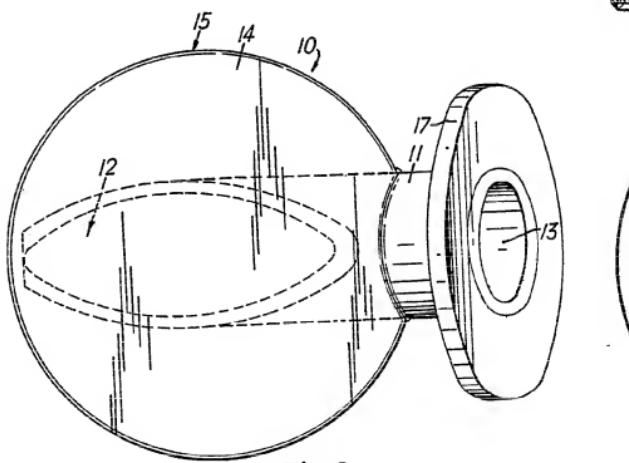


Fig. 2.



1,020,712
2 SHEETS

COMPLETE SPECIFICATION
This drawing is a reproduction of
the Original on a reduced scale.
SHEETS 1 & 2

Fig. 3.

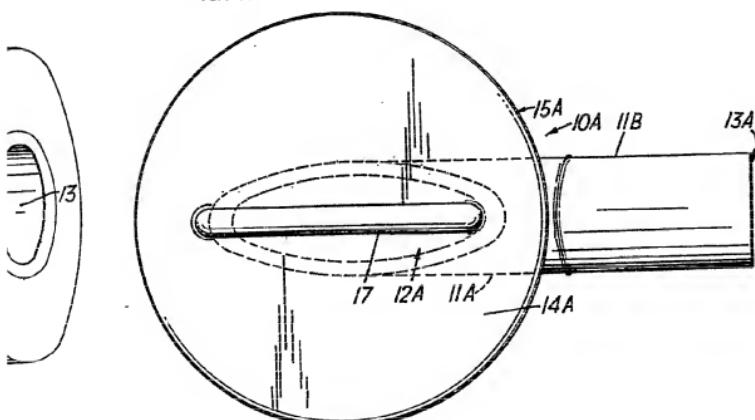
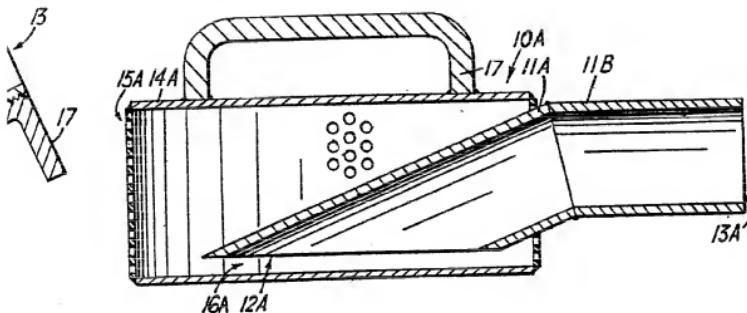


Fig. 4.

1,020,712 COMPLETE SPECIFICATION
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the Original Drawing in reduced size.
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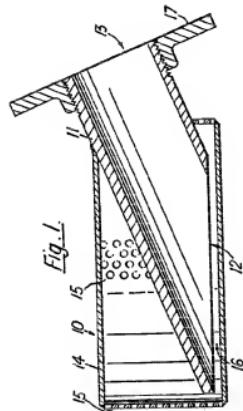


Fig. 1.

Fig. 3.

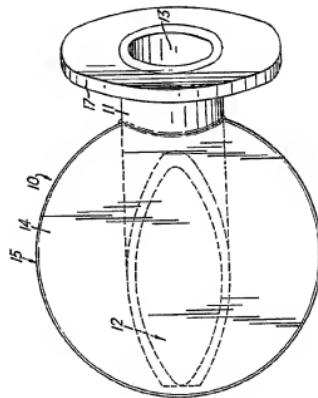


Fig. 2.

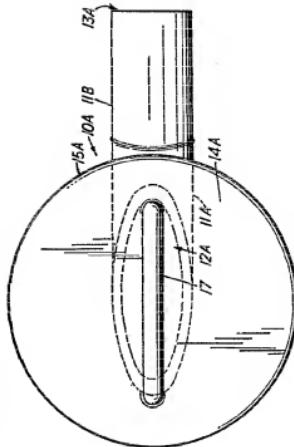


Fig. 4.